



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.		
10/797,797	03/10/2004	Paul A. Furze	B03-76	4502		
40990	7590	03/30/2010	EXAMINER			
ACUSHNET COMPANY 333 BRIDGE STREET P. O. BOX 965 FAIRHAVEN, MA 02719				GRAY, BRANDON RAMON		
ART UNIT		PAPER NUMBER				
3714						
MAIL DATE		DELIVERY MODE				
03/30/2010		PAPER				

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/797,797	FURZE ET AL.	
	<b>Examiner</b>	<b>Art Unit</b>	
	BRANDON GRAY	3714	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

1) Responsive to communication(s) filed on 1/16/10.

2a) This action is **FINAL**.                            2b) This action is non-final.

3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

4) Claim(s) 1,2,4,10,14-19,21-25,27 and 30-35 is/are pending in the application.

4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.

5) Claim(s) \_\_\_\_\_ is/are allowed.

6) Claim(s) 1,2,4,10,14-19,21-25,27 and 30-35 is/are rejected.

7) Claim(s) \_\_\_\_\_ is/are objected to.

8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

9) The specification is objected to by the Examiner.

10) The drawing(s) filed on \_\_\_\_\_ is/are: a) accepted or b) objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a) All    b) Some \* c) None of:

    1. Certified copies of the priority documents have been received.

    2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.

    3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

1) Notice of References Cited (PTO-892)

2) Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.

4) Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.

5) Notice of Informal Patent Application

6) Other: \_\_\_\_\_.

## **DETAILED ACTION**

### ***Applicant's Submission of a Response***

Applicant submission of a response on 1/16/10 has been received and considered. In the response, Applicant amended claims 1, 4, 10, 27 and 30. Claims 3, 6-9, 11, 13, 28, 29 and 36-42 are canceled. Therefore, claims 1, 2, 4, 10, 14-19, 21-25, 27, and 30-35 are pending.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

**Claims 1, 2, 4, 10, 14-18, 21, 22, 24, 25, 27, and 30-35 are rejected under 35 U.S.C. 103(a) as being unpatentable over US Pat Number 5,632,205 to Gordon in view US Pat Number 7,283,657 to Carlson and US Pub 2002/0092731 to Osterfeld.**

Regarding claims 1 and 27, Gordon discloses a method of orienting a spherical object, comprising: acquiring an image of a spherical object at an imaging station (see abstract); analyzing the image with a first computer to determine an orientation analysis (col 4 lines 40-60, col 5 lines 49-55); and

Gordon is silent on transferring the object from the imaging station to orienting stations using a transfer mechanism multiple extendable vertical arms, each arm having a vacuum cup for holding and carrying the object to a station so the object does not rotationally slip during transfer from station to station;

orienting the object to a predetermined orientation at each orienting station according to the orientation analysis and

wherein the orienting stations comprise first, second, and third stations each station having a rotating object holder with a vacuum cup for receiving the object from the vacuum cup of the rotary indexer and rotating the object about a single axis);

the first, second, and third stations collectively orienting the object by rotation about axes that are alternately perpendicular.

However, Carlson teaches transferring the object from the imaging station to orienting stations using a transfer mechanism the transfer mechanism comprising a multiple extendable vertical arms, each arm having a vacuum cup for holding and carrying the object to a station so the object does not rotationally slip during transfer from station to station (fig 7, col 13, lines 29-40, col 12, lines 15-25);

orienting the object to a predetermined orientation at each orienting station according to the orientation analysis (col 11, lines 20-55); and

wherein the orienting stations comprise first, second, and third stations each station having a rotating object holder with a vacuum cup for receiving the object from the vacuum cup of the rotary indexer and rotating the object about a single axis (fig 7, col 11, lines 20-35, col 12, lines 15-25);

the first, second, and third stations collectively orienting the object by rotation about axes that are alternately perpendicular (col 9 lines 10-20).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of invention to modify Gordon with Carlson imaging station's for the benefit of having higher operational rates.

Gordon is also silent on the transfer mechanism comprising a rotary indexer.

However, Osterfeld teaches the transfer mechanism comprising a rotary indexer (par 0092).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of invention to modify Gordon with Osterfeld's transfer mechanism because using rotary indexers for moving material is well known in the art.

Regarding claim 2, Gordon discloses the object is a golf ball (col 2 lines 1-5).

Regarding claim 4, Gordon in view of Carlson is silent on the rotary indexer is a cam-driven mechanical indexer.

However, Osterfeld teaches the rotary indexer is a cam-driven mechanical indexer (fig 1, par 0047, 0078, 0092).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of invention to modify Gordon with Osterfeld's cam driven rotary indexer for the benefit of making the process more efficient.

Regarding claims 10 and 30, Gordon discloses of the rotating object holder that has an internal cup diameter approximately equal to an outside diameter of the object, and the object helps to guide the vacuum cups of the extendable vertical arms of the rotary indexer to the vacuum cups of the rotating object holder (col 3, lines 20-45, before rotation begins it is considered a holder cup).

Gordon is silent on the vacuum cup of the rotating object holder and the vacuum cups of the extendable vertical arms.

However, Carlson teaches the vacuum cup of the rotating object holder and the vacuum cups of the extendable vertical arms (fig 7, col 11, lines 20-50, col 12, lines 13-35).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of invention to modify Gordon with Carlson's Vacuum cup for the benefit of better securing the object.

Gordon is also silent on the rotary indexer.

However, Osterfeld teaches the rotary indexer (par 0092).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of invention to modify Gordon with Osterfeld's rotary indexers for moving material because they are well known in the art.

Regarding claims 14 and 31, Gordon is silent regarding at least one of the orienting stations is at least partially mounted onto the transfer mechanism.

However, Carlson teaches at least one of the orienting stations is at least partially mounted onto the transfer.

Therefore, it would have been obvious to one of ordinary skill in the art at the time of invention to modify Gordon with Carlson's orienting station for the benefit of reducing the amount parts needed for the process.

Regarding claims 15 and 32, Gordon discloses a spindle (fig 3 130, col 3, lines 30-45), but is silent on second station being mounted onto the transfer mechanism.

However, Carlson teaches a second station mounted onto the transfer mechanism (col 11 lines 20-35).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of invention to modify Gordon with Carlson's transfer mechanism for the benefit of speeding up the transfer process.

Regarding claim 16, Gordon discloses a motor that rotates the spindle to rotate the object (col 3, lines 35-45), but is silent regarding it mounted on the transfer mechanism.

However, Carlson teaches the motor mounted on the transfer mechanism (col 11, lines 20-35).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of invention to modify Gordon with Carlson's transfer mechanism for the benefit of speeding up the transfer process.

Regarding claim 17, Gordon discloses acquiring an image of the object as the motor rotates the object (fig 4, col 5, lines 5-30).

Regarding claim 18, Gordon discloses driving the spindle with a friction wheel to rotate the object (fig 3 lines col 3, lines 35-46).

Regarding claim 21, Gordon discloses sliding the spindle into an engaged position wherein a motor is coupled to the spindle as the spindle slides into the engaged position (col 2, lines 60-67, col 3 lines 1-5).

Regarding claim 22, Gordon discloses that the spindle engages the motor through a blade and slot mechanism while indexes the object (fig 3, col 20-45), but is silent on transfer mechanism indexing the object.

However, Carlson teaches a transfer mechanism (col 11, lines 20-35).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of invention to modify Gordon with Carlson's transfer mechanism for the benefit of speeding up the transfer process.

Regarding claim 25, Gordon discloses two of the three alternate perpendicular axes are vertical (fig 1a).

Regarding claim 33, Gordon discloses the imaging station is an image acquisition and object orienting station that comprises a gimbaled mechanism that rotates the object about three perpendicular axes without a transfer from one station to another station between the rotations (fig 1a, 1b, 1c, 1d, col 5, lines 49-60)).

Regarding claim 34, Gordon discloses the object is transferred to an orienting station that has a gimbaled mechanism that rotates the object about three perpendicular axes without a transfer from one station to another station between the rotations (fig 1a, 1b, 1c, 1d, col 5, lines 49-60), but is silent on a transfer mechanism.

However, Carlson teaches a transfer mechanism (col 11, lines 20-35).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of invention to modify Gordon with Carlson's transfer mechanism for the benefit of speeding up the transfer process.

Regarding claim 35, Gordon is silent regarding an automated transfer mechanism transfers the object to the orienting station.

However, Carlson teaches an automated transfer mechanism transfers the object to the orienting station (col 11, lines 20-45).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of invention to modify Gordon with Carlson's automated transfer mechanism for the benefit of making the whole process machine oriented.

**Claim 19 is rejected under 35 U.S.C. 103(a) as being unpatentable over US Pat Number 5,632,205 to Gordon in view of US Pat Number 7,283,657 to Carlson and US Pub 2002/0092731 to Osterfeld and in further view of US Pat 3,778,067 to Gentiluomo.**

Regarding claim 19, Gordon discloses the spindle to rotary the object (col 3, lines 20-45), but is silent on it being on a magnetically coupled motor.

However, Gentiluomo teaches a magnetically coupled motor (col 12, lines 21-30).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of invention to modify Gordon in view of Carlson with Gentiluomo's magnetically coupled motor for the benefit of improving the rotation by causing less friction.

**Claim 23 is rejected under 35 U.S.C. 103(a) as being unpatentable over US Pat Number 5,632,205 to Gordon in view US Pat Number 7,283,657 to Carlson and US Pub 2002/0092731 to Osterfeld in further view US Pub Number 2001/0012389 to Welchman.**

Regarding claim 23, Gordon is silent on alternating a flow of data from the imaging station to the first computer with a flow of data from the imaging station to a second computer.

However, Welchman teaches alternating a flow of data from the imaging station to the first computer with a flow of data from the imaging

station to a second computer (par 0037, 0040).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of invention to modify Gordon with Welchman's imaging stations for the benefit of having two processing stations instead of one to increase the amount of imaging that can be done.

Regarding claim 24, it is rejected under the same basis as claim 23.

### ***Response to Arguments***

Applicant arguments filed 1/16/10 have been fully considered and are not entirely persuasive.

The previous claim objection has been withdrawn.

On page three, paragraph two, Applicant argues that Gordon in view of Carlson fails to disclose a rotary indexer, this argument is moot on the grounds of the new rejection.

On page three, paragraph three, Applicant argues that Carlson fails to disclose a vacuum cup. The Examiner contends that Carlson teaches this feature in column 12, lines 13-30.

On page four, paragraph one, Applicant argues that Carlson fails to teach a rotary indexer having multiple vacuum cups for holding and carrying the ball to different orienting stations. This argument is moot on the grounds of the new rejection.

On page four, paragraph one, Applicant argues that Welchman fails to disclose a rotary indexer having multiple vacuum cups for holding and carrying the ball to orienting stations, each station having a vacuum cup for receiving the ball so the ball does not rotationally slip during transfer from the station to station and wherein each cup rotates about a single axis so the ball is

placed in the proper orientation. The Examiner contends that this argument is moot on the grounds of the new rejection.

On page five, paragraph two, the arguments are moot on the grounds of the new rejection.

On page five, paragraph three, the arguments are moot on the grounds of the new rejection.

On page five, paragraph four, Applicant argues that Gentiluomo fails to disclose a rotary indexer having multiple vacuum cup for holding and carrying the ball to the orienting station each station having a vacuum cup for receiving the ball so the ball does not rotationally slip during transfer from station to station. The Examiner contends this argument is moot on grounds of the new rejection.

### ***Conclusion***

Applicant's amendment necessitated the new grounds of rejection presented in this office action. Accordingly, **THIS ACTION IS MADE FINAL**. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event,

however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to BRANDON GRAY whose telephone number is (571)270-7465. The examiner can normally be reached on Mon- Fri 7am-5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Dmitry Suhol can be reached on 571-272-4430. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/B. G./  
Examiner, Art Unit 3714

/JAMES S. MCCLELLAN/  
Primary Examiner, Art Unit 3714